

were now called injurious, since the plants have acquired value for forage.

—Mr. Fiske gave in brief the life history of one of the species of the chalcid genus *Perilampus*, which will soon be published in full elsewhere.

—Prof. J. M. Steadman, being called upon by the Society, spoke of the changes since the early days, when the Society was small and only a few members present at the meetings.

—The following papers were accepted for publication:

NOTES ON THE SPECIES OF MEGALOPYGE ALLIED TO OPERCULARIS SMITH AND ABBOT.

[Lepidoptera; Megalopygidæ.]

BY HARRISON G. DYAR.

We have in the southern Atlantic States a single species of *Megploayge*, the well-known *M. opercularis* of Smith and Abbot. This is an intrusion into our fauna of a tropical American element; the species of *Megalopyge* allied to *opercularis* are not uncommon in Central and South America. The center of distribution, where the most species occur, appears to be in Mexico. This may represent the geographical origin of the group, whence members have strayed to the North and to the South. Several forms occur in Venezuela and the Guianas, and I include others from Brazil, but these latter have already departed considerably from the typical appearance of the group. The species which I at present refer here may be separated as follows:

Fore wing without any pale whitish patch at the base:

A subterminal series of double black bars *salebrosa* Clemens

Without this character—

Outer margin broadly clear yellow to anal angle—

Yellow margin broadest at apex *bissesa* Dyar

Yellow margin broadening toward tornus—

Dark shading not reaching the base.... *pellita* Felder

Dark shading reaching the base..... *agesistrata* Druce

Outer margin more or less shaded or encroached upon by brown shading—

Wings more elongate, the outer margin straighter; costa usually black-marked nearly to apex—

Wing with a yellow margin..... *briseis* Dyar

Wing without a yellow margin—

Subterminal line narrow, broken, remote from margin *govana* Schaus

Subterminal line broad, shaded, } *undulata* Herrich-
rather near the margin..... } Schaeffer
 } *aricia* Schaus

Wing less elongate, the outer margin more convex; costa not black-marked beyond outer fourth—

Male with a white subterminal band..... *amita* Schaus

Male without such a band—

White markings forming a row of spots between the veins outwardly *ornata* Druce

White markings more generally developed but not forming distinct outer spots

opercularis Smith and Abbot

Fore wing with a pale whitish patch at base:

Outer margin clear yellow, the basal shading dark and purplish—

Male with an outer white line *xanthopasa* Sepp

Male without such a line *defoliata* Walker

Outer margin overspread with brown—

Female dark brown, without distinct outer pale line

trujillo Schaus

Female a little paler and more diversified, with more distinct traces of an outer pale line *trujillina* Dyar

Female with yellow under-ground still more diversified

codiopteris Dyar

Megalopyge salebrosa Clemens.

Oylothrix salebrosa Clemens, Proc. Acad. Nat. Sci. Phil., xii, 522
1860.

Gasina agdamea Druce, Ann. Mag. Nat. Hist. (6) v, 216, 1890.

Oylothrix salebrosa Kirby, Cat. Lep. Het., 775, 1892.

Megalopyge agdamea Kirby, Cat. Lep. Het., 846, 1892.

Gasina agdamea Druce, Biol. Cent.-Am., Lep. Het., ii, 431, 1897.

I have this well-marked species from Orizaba, Jalapa, and Coatepec, Mexico. Druce had also a specimen from Guatemala. It is not very close to our *opercularis*, but is the first species in which the yellow ground and dark basal shadings appear. With its row of submarginal dashes it recalls *M. nuda* Cramer, a species of another group, and also, by a change of color, forms a starting-point for the *albicolis* group. This seems to be a synthetic form and perhaps indicates the origin of the group. I have determined this species as *Megalopyge tharops* Stoll, but further study of Stoll's figure indi-

cates that this is improbable. The figure may be very poor, but it represents a black patch below the end of the cell, which is the very part of the wing where *salebrosa* never has a black mark. I have not been able to identify Stoll's figure with specimens, but can not think that it can possibly be a synonym of *Megalopyge lanata* Stoll, as it has been referred.

Megalopyge agesistrata Druce.

Gasina agesistrata Druce, Ann. Mag. Nat. Hist. (6), v, 217, 1890.

Megalopyge agesistrata Kirby, Cat. Lep. Het., 846, 1892.

Gasina agesistrata Druce, Biol. Cent.-Am., Lep. Het., ii, 432, 1897

I have no specimens of this species, but it is evident from the figures that it is a form in which the basal dark shadings are much reduced and have retreated from the margin of the wing. It is reported from Central America and the east coast region of Mexico.

Megalopyge bissesae Dyar.

In this species there is a wide yellow margin on the wing which is unusually sharply limited and distinct. It is known from the edge of the Mexican tableland and from Arizona. It is a more northerly distributed form, yet does not come as close to our *opercularis* as does the following.

Megalopyge ornata Druce.

Lagoa ornata Druce, Biol. Cent.-Am., Lep. Het., i, 214, 1887.

Lagoa ornata Kirby, Cat. Lep. Het., 472, 1892.

This species is not figured in the *Biologia*, but I think that I have correctly identified it. One of my species is labeled "*agesistrata*" and a specimen of the following specimen is labeled "*ornata*". The determinations are by Mr. Schaus, and his work was carefully done. However, I think both determinations are wrong, due to the special difficulties of the case. The specimen labeled "*ornata*" is so close to what I take to be the real *ornata* that the misidentification might easily be made unless the localities were specially considered. I identify specimens from Druce's type locality, Cordoba, Mexico, and refer the Venezuelan specimen to the following. We have here a species closely allied to our *opercularis*, in fact distinguished only by minor characters, the distribution of the fugitive white-scaling on the wing. In *ornata* the white forms a row of submarginal dots which are not developed in *opercularis*. This form is apparently the one that gave rise to our *opercularis*, the habitats of the two being continuous along

the coast of the Gulf of Mexico. No specimens, however, have been received from the intermediate points, so it is not known whether the habitats are actually contiguous.

Megalopyge briseis, new species.

Ocher yellow, overspread with brown, the brown shade reaching the margins of the wings, a dark-brown shade from base to end of the cell over basal two-thirds of fore wing, intensified on costa, end of cell and submedianly in the male, less so in the female and replaced by an ocher-yellow patch on the inner margin; tips of the woolly hairs marked with white, forming illy defined median marking and in base of cell.

Expanse, male 37 mm., female 50 mm.

Ten males, three females, Merida, Venezuela (S. E. Briceño, P. Dognin, O. Staudinger).

Type: No. 13004, U. S. National Museum.

The species is very close to *ornata* Druce, but is larger, generally darker-shaded, with less yellow on the outer margin, the wings more drawn out, with a longer, straighter outer margin, while the whitish markings of the wings are reduced and do not form spots.

Intermediate between the two forms are certain males from Costa Rica which I refer to *ornata*. However, their wings are distinctly more produced than the true Mexican *ornata*, though less so than in the Venezuelan *briseis*, while the white spottings are distinct. A single male from French Guiana agrees entirely with these, but I refrain from drawing positive conclusions about the geographic distribution without longer series of specimens. The characters of these closely allied forms do not appear well except in series.

Two of the specimens were identified as *agesistrata* Druce by Mr. Dognin, but I think the basal dark shadings are too extensive for that species. The identification as *ornata* by Mr. Schaus is referred to above, while another labeled *chrysocoma* Herrich-Schaeffer by Dr. Staudinger is referred to below.

Megalopyge megalopygæ Schaus.

Edebessa megalopygæ Schaus, Proc. U. S. Nat. Mus., xxix, 336, 1905.

This species is as dark as *trujillo*, but retains a yellow shade along the margins of the wings and on the thorax. It is allied to *briseis* and is an intensification of that type. The very long, narrow wings induced its original reference to *Edebessa*, but it has not otherwise the structure of that genus.

Megalopyge pellita Felder.

Lagoa pellita Felder, Reise d. Novara, iv, pl. 83, fig. 20, 1874.

Lagoa polita Kirby, Cat. Lep. Het., 472, 1892.

Lagoa pellita Kirby, Cat. Lep. Het., 922, 1892.

Felder figures a single female from French Guiana. The dark median shade is well developed, but is well separated from both base and margin. I have several males from this region, close to *ornata*, *briseis*, and *govana*, but think they are not to be associated with *pellita*.

Megalopyge govana Schaus.

Megalopyge govana Schaus, Trans. Am. Ent. Soc., xxx, 139, 1904.

Only the single male type from Omai, British Guiana, is certainly referred here. The wing is heavily overspread with brown, the white markings forming a line bent inward at vein 2. The French Guiana specimens referred to above under *pellita* may belong here, but they are lighter and yellower on the margin. The wing-shape of all is as in *briseis*, but the specimens are smaller. A good series of both sexes is needed for a positive opinion.

Megalopyge defoliata Walker.

Alpis defoliata Walker, Cat. Lep. Brit. Mus., v, 1094, 1855.

Alpis defoliata Kirby, Cat. Lep. Het., 541, 1892.

The identification is based upon a female compared by Mr. Schaus with specimens in the British Museum. The species is from Mexico, and I have a number of specimens from that region. It differs from the forms heretofore considered by a whitish patch at the base of the fore wing in both sexes. *M. defoliata* in a strongly-marked, dark-shaded species, with yellow margin.

Megalopyge codiopteris Dyar.

Also from Mexico. The form is closely allied to *defoliata*, but throughout lighter, the margin more overspread with brown and less contrasted.

Megalopyge trujillina Dyar.

Like the preceding, but still browner, with less ochreous tint, more uniformly colored.

Megalopyge trujillo Schaus.

Megalopyge trujillo Schaus, Journ. N. Y. Ent. Soc., iv, 58, 1896.

Still darker than the preceding, the ochre tint almost wholly lost.

These four forms form a close series, but as they are all from Mexico and the same faunal region I think they are more probably species than varieties. The life histories will have to be studied to clear up this point finally.

Megalopyge xanthopasa Sepp.

Phalæna xanthopasa Sepp, Surin. Vlind., i, pl. 14, 1828.

Alpis xanthopasa Walker, Cat. Lep. Brit. Mus., v, 1095, 1855.

Alpis (?) *xanthopasa* Kirby, Cat. Lep. Het., 542, 1892.

Described from French Guiana. The male shows in the figure a white patch at the base of the fore wing, and I think this should have been shown in the female also. The species is close to *defoliata* Walker, but the white submarginal line is more developed and in the male prominently cuts across the markings.

Megalopyge amita Schaus.

Megalopyge amita Schaus, Journ. N. Y. Ent. Soc., viii, 229, 1900.

The white outer line is here rather prominent, but is now running across the basal purple field which extends outward, leaving only a very narrow yellow margin. The pale discal marking is represented, but there is no white basal patch. The species is from the State of Parana, in Brazil. We have now reached forms differing widely from the *opercularis* type, and also widely separated geographically.

Megalopyge undulata Herrich-Schaeffer.

Chrysofyga undulata Herrich-Schaeffer, Aussereuerop. Schmett., fig. 378, 1878.

Megalopyge undulata Burmeister, Desc. Rep. Argent., v, 273, 1882.

Megalopyge fuliginosa Moore, Proc. Lit. Phil. Soc. Liverpool, xxvii, 256, 1883.

Megalopyge undulata Kirby, Cat. Lep. Het., 846, 1892.

I have only a female of this form from Rio Janeiro, Brazil. It is a dark brown, the ochreous tint all gone, as is also the paler margin, while the paler outer line and discal mark are prominent. This is clearly a further development of the tendencies shown in the preceding species. Berg describes a variety *vulpina* from the Argentine which, he says, is smaller, the wings more rounded, with slight differences in coloration, all consonant with the distribution into a more temperate climate.

Megalopyge aricia Schaus.

Megalopyge aricia Schaus, Trans. Am. Ent. Soc., xxx, 139, 1904.

Described from Aroa, Venezuela. Two males are before me, which look as if they might belong to *undulata*. If it were not for the different localities I should so refer them, but with only males of *aricia* and only a female of *undulata*, I must wait for further information.

Megalopyge chrysocoma Herrich-Schaeffer.

Chrysopyga chrysocoma Herrich-Schaeffer, Aussereurop, Schmett., fig. 376, 1855.

Chrysopyga pellucida Möschler, Verh. zool.-bot. Ges. Wien, xxvii, 67, 1877.

Prismoptera trossula Dognin, Le Naturaliste, xiii, 126, 1891.

Prismoptera trossula Kirby, Cat. Lep. Het., 716, 1892.

Megalopyge pellucida Kirby, Cat. Lep. Het., 846, 1892.

Herrich-Schaeffer figures a male with yellow body and gray wings. I have a specimen of *trossuta* Dognin in which the wings are nearly entirely denuded of scales, but a few dark-gray ones remain at the base. Möschler described *pellucida* from one female which was so "stark geflogen," as he says, that he refrained from making a figure of it. The wings were nearly entirely denuded of scales, though a few ocher-yellow ones remained. There is little satisfaction in attempting to identify species based upon such badly flown specimens, but something must be done with the names, and I think they might as well rest under the synonymy of *chrysocoma*. I have a specimen of *briseis*, referred to above, that was sent to me by the late Dr. Staudinger under the name *chrysocoma*. I have only Herrich-Schaeffer's figure to go by, no description, but I think that it represents a species with gray wings rather than one denuded of scales. However, Dr. Staudinger evidently thought otherwise, and, as *chrysocoma* was described from Venezuela, he identified Venezuelan specimens, which had the yellow body, as *chrysocoma*. I am not sure that he was right. However, I have before me several species with uniform gray or brown wings and with the body more or less yellow, viz, *vulpina* Schaus, *brugea* Schaus, *omayana* Schaus, and an undescribed species from French Guiana, so that the combination of gray wings and yellow body is perfectly possible. It seems to me that Herrich-Schaeffer would not so have represented a denuded wing.

This species is, of course, not allied to the *opercularis* group, except distantly. The yellow body is retained, but the wings have lost all trace of yellow as well as markings. I will not pursue the chain of relationships any further, since it has already led us far enough from the group under consideration.